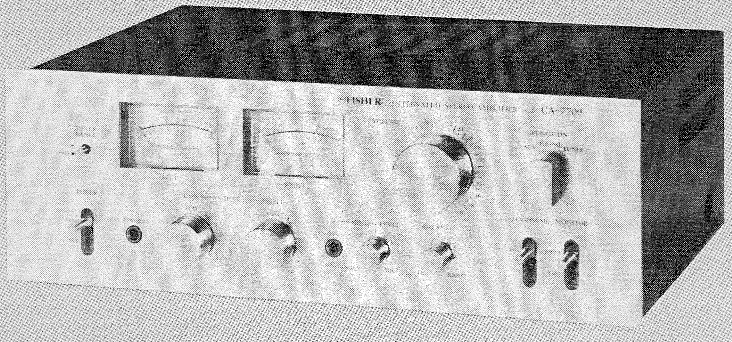
SERVICE MANUAL

FISHER

CA-7700

Integrated Stereo Amplifier

(EUROPE)


FISHER INTEGRATED STEREO AMPLIFIER CA-7700
VOLUME
FUNCTION
POWER
MIXING LEVEL
BALANCE
LOUDNESS
MONITOR

FISHER INTEGRATED STEREO AMPLIFIER CA-7700
METER RANGE
LEFT
RIGHT
VOLUME
FUNCTION
POWER
BASS
TONE
TREBLE
MIXING LEVEL
BALANCE
LOUDNESS
MONITOR

The first name in high fidelity

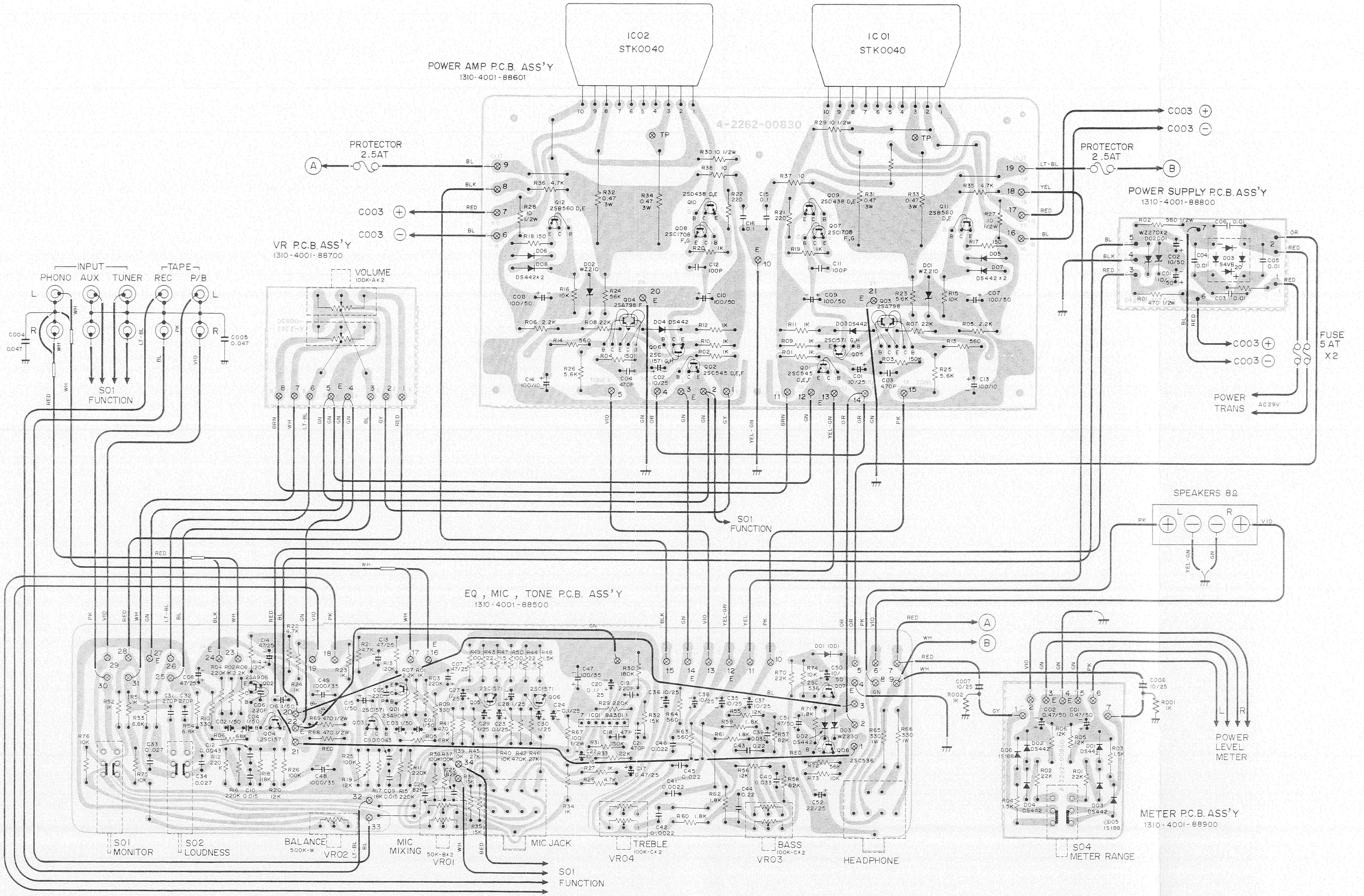
Nominal Specifications For Information Only.

AMPLIFIER		CA-7700
POWER AMPLIFIER SECTION Continuous RMS sine wave power per channel within stated band with at no more than stated distortion and with an 8 ohm loads.		42 W + 42 W
Power Band Width		15 Hz - 40 kHz
Harmonic Distortion	At effective output	0.3 %
	At 10W output	0.03 %
Intermodulation Distortion	At effective output	0.3 %
Speaker Damping 8 ohm		40
PRE AMPLIFIER SECTION Frequency Response 20 Hz - 20 kHz		+0 dB, −2 dB
Input Seneitivity and Impedance	Phono	2.5 mV/50 k ohm
	Tuner Auxiliary	150 mV/35k ohm 150 mV/35k ohm
	Mic (Impedance:600 ohms)	2.5 mV/6k ohm
	Tape PB	150 mV/35k ohm
Output Level	At TAPE REC	150 mV
RIAA Deviation		±0.5 dB
Signal to Noise Ratio	Phono	75 dB (IHF A network)
	Tuner	85 dB (IHF A network)
	Aux	85 dB (IHF A network)
Tone Control	Bass (50 Hz)	±10 dB
	Treble (20 kHz)	±10 dB
Loudness Contour (100 Hz/10 kHz)		+8 dB/+4 dB
GENERAL Power Source		AC 110/220 V 50 Hz
Power Consumption		170 W
Dimensions (W x H x D)		400 x 135 x 295 mm
Weight		6.6 kg (approx.)

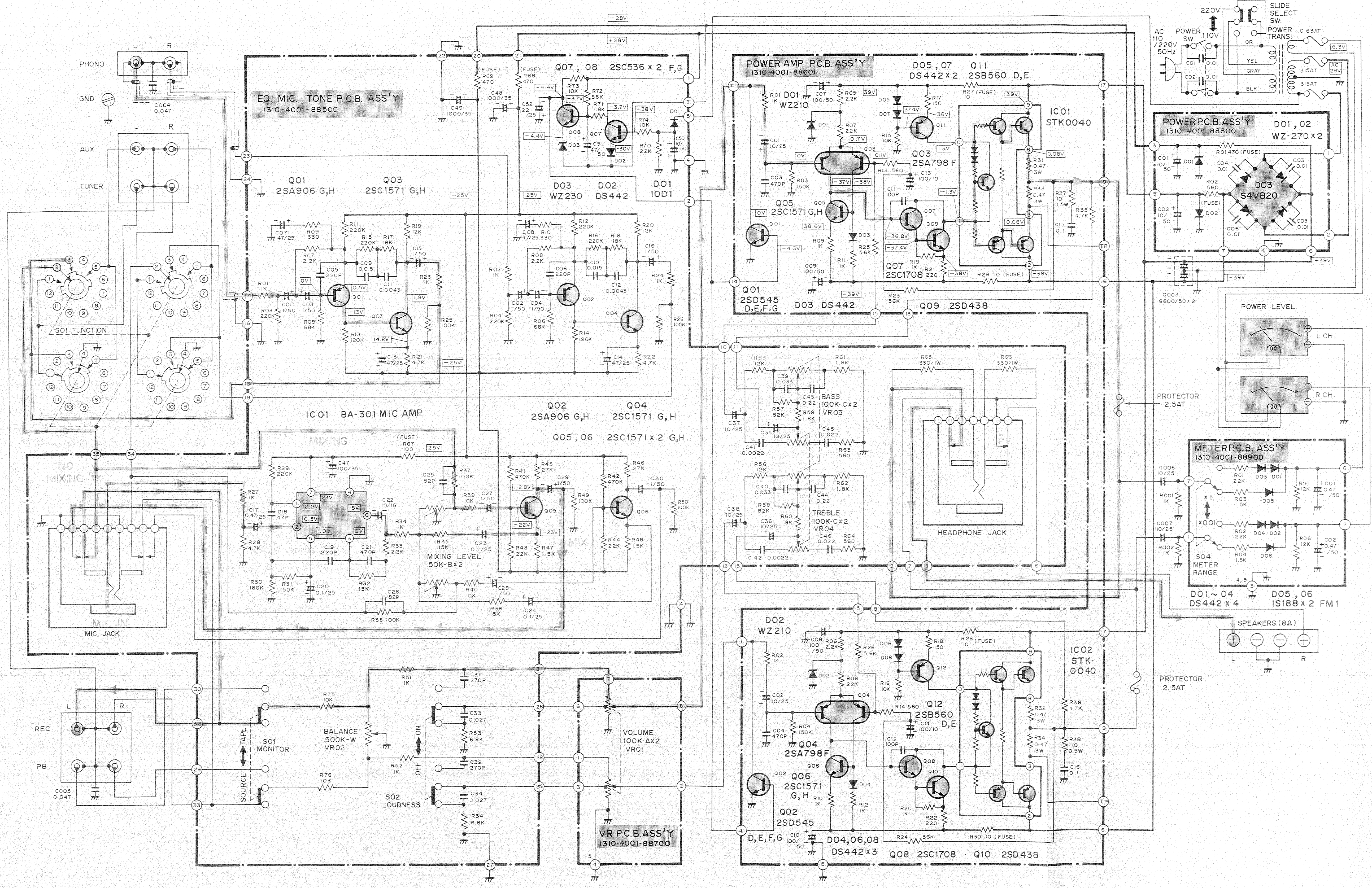
Because Fisher products are subject to continuous improvement, Fisher reserves the right to modify, change, or alter any design or specifications without notice and without incurring any obligation. Fisher reserves the right to make changes and improvements upon its products without any obligation to install such changes upon any of its products previously manufactured.

PRINTED CIRCUIT BOARD WIRING DIAGRAM

(BOTTOM VIEW)


IC02 STK0040
IC01 STK0040
POWER AMP P.C.B. ASS'Y
1310-4001-88601
4-2262-00830
PROTECTOR 2.5AT
PROTECTOR 2.5AT
C003 ⊕
C003 ⊖
POWER SUPPLY P.C.B. ASS'Y
1310-4001-88800
FUSE 5AT X2
POWER TRANS
AC29V
VR P.C.B. ASS'Y
1310-4001-88700
VOLUME 100K-A×2
INPUT
TAPE
PHONO
AUX
TUNER
REC
P/B
L
R
C004 0.047
C005 0.047
S01 FUNCTION
SPEAKERS 8Ω
EQ, MIC, TONE P.C.B. ASS'Y
1310-4001-88500
S01 MONITOR
S02 LOUDNESS
BALANCE 500K-W VR02
MIC MIXING 50K-B×2 VR01
MIC JACK
TREBLE 100K-C×2 VR04
BASS 100K-C×2 VR03
HEADPHONE
S01 FUNCTION
METER P.C.B. ASS'Y
1310-4001-88900
S04 METER RANGE
POWER LEVEL METER
A
B

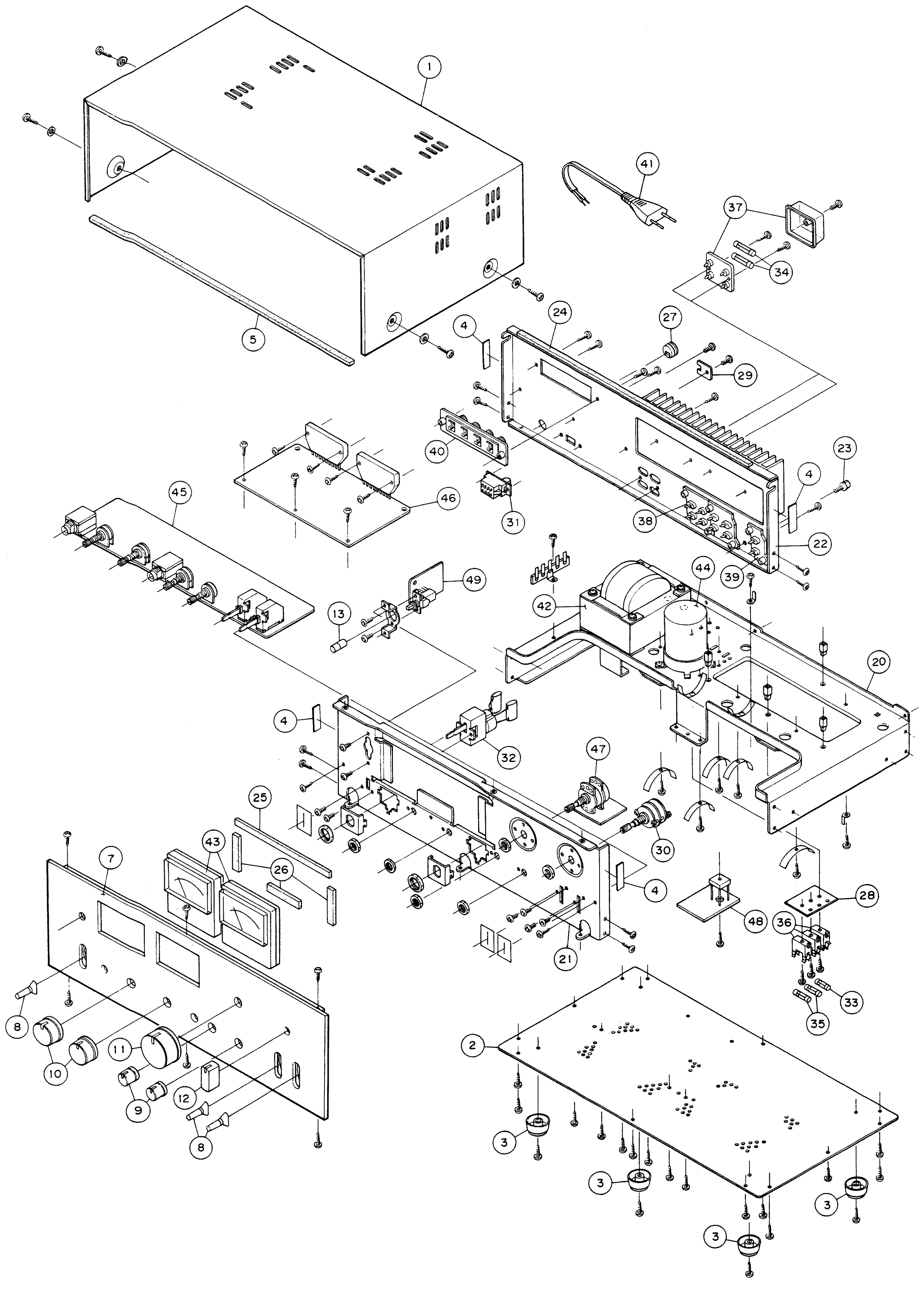
SCHEMATIC DIAGRAM


PHONO
GND
AUX
TUNER
S01 FUNCTION
NO MIXING
MIXING
MIC JACK
MIC IN
REC
PB
EQ. MIC. TONE P.C.B. ASS'Y
1310-4001-88500
Q01 2SA906 G,H
Q03 2SC1571 G,H
Q07, 08 2SC536 x 2 F,G
D03 WZ230
D02 DS442
D01 10D1
Q02 2SA906 G,H
Q04 2SC1571 G,H
Q05, 06 2SC1571 x 2 G,H
IC01 BA-301 MIC AMP
MIXING LEVEL 50K-B x 2
S01 MONITOR
TAPE
SOURCE
BALANCE 500K-W VR02
S02 LOUDNESS
ON
OFF
VOLUME 100K-A x 2 VR01
VR P.C.B. ASS'Y
1310-4001-88700
POWER AMP. P.C.B. ASS'Y
1310-4001-88601
D05, 07 DS442 x 2
Q11 2SB560 D,E
IC01 STK0040
D01 WZ210
Q03 2SA798 F
Q05 2SC1571 G,H
Q07 2SC1708
Q01 2SD545 D,E,F,G
D03 DS442
Q09 2SD438
BASS 100K-C x 2 VR03
TREBLE 100K-C x 2 VR04
HEADPHONE JACK
D02 WZ210
IC02 STK-0040
Q12 2SB560 D,E
Q04 2SA798F
Q06 2SC1571 G,H
Q02 2SD545 D,E,F,G
D04,06,08 DS442 x 3
Q08 2SC1708 · Q10 2SD438
AC 110/220V 50Hz
POWER SW.
220V
110V
SLIDE SELECT SW.
POWER TRANS.
POWER P.C.B. ASS'Y
1310-4001-88800
D01, 02 WZ-270 x 2
D03 S4VB20
C003 6800/50 x 2
POWER LEVEL
L CH.
R CH.
PROTECTOR 2.5AT
METER P.C.B. ASS'Y
1310-4001-88900
S04 METER RANGE
D01~04 DS442 x 4
D05, 06 IS188 x 2 FM1
SPEAKERS (8Ω)
L
R

NOTES:

1. All resistors values are indicated in "ohm" (K=10^3, M=10^6).
2. All capacitors values are indicated in "μF" (P=10^{-12}).
3. All voltages indicated on the schematics are measured under the following conditions.
   a. Use a V.T.V.M.
   b. All voltages ±10% with respect chassis ground
   c. No signals at input terminals
   d. AC input at 220 volts 50Hz
4. This is a fundamental schematics diagram. Some products may be modified without notice.

EXPLODED VIEW OF CABINET AND CHASSIS



PARTS LIST

PACKING PARTS LIST

Ref. No.	Parts Number	Description
	131 6 1139 68206	Box Corrugate-EXP
	141 6 2119 01441	Bag Polyethylene-EXP (Set)
	131 6 3009 25670	Pad (Right)
	131 6 3009 25680	Pad (Left)

ACCESSORIES PARTS LIST

Ref. No.	Parts Number	Description
	131 6 4119 68902	Explanatory Booklet (English, French, German)
	131 6 4519 14700	Guarantee Card (German)
	131 6 4519 15200	Guarantee Card (French)

CABINET PARTS LIST

Ref. No.	Parts Number	Description
1	131 2 1410 16501	Cover
2	131 2 1105 20401	Plate Bottom
3	131 2 1801 14100	Leg
4	131 2 4208 26600	Spacer (Panel Front, Rear)
5	131 2 5205 15300	Cushion

APPEARANCE PARTS LIST

Ref. No.	Parts Number	Description
7	131 0 1016 26403	Panel Decorative Assy (Silver)
	131 0 1016 26404	Panel Decorative Assy (Black)
8	131 0 1001 37601	Knob (Lever Switch) (Silver)
	131 0 1001 37603	Knob (Lever Switch) (Black)
9	131 0 1001 42200	Knob (Balance, MIC VR) (Silver)
	131 0 1001 42202	Knob (Balance, MIC VR) (Black)
10	131 0 1001 42300	Knob (Bass, Treble) (Silver)
	131 0 1001 42301	Knob (Bass, Treble) (Black)
11	131 0 1001 42400	Knob (Main VR) (Silver)
	131 0 1001 42402	Knob (Main VR) (Black)
12	131 0 1001 42500	Knob (Function) (Silver)
	131 0 1001 42502	Knob (Function) (Black)
13	131 0 1001 43700	Knob (Meter Range SW) (Silver)
	131 0 1001 43701	Knob (Meter Range SW) (Black)

CHASSIS PARTS LIST

Ref. No.	Parts Number	Description
20 *	131 2 3301 23200	Chassis
21 *	131 2 3305 23100	Panel Front
22 *	131 2 3306 25603	Panel Rear
23 *	131 2 4201 17800	Screw (GND)
24 *	131 2 5205 15300	Cushion (Panel Rear)
25 *	131 2 5205 18300	Cushion (Meter)
26 *	131 2 5205 18400	Cushion (Meter)
27 *	131 2 6111 14200	Bushing (AC Cord)
28 *	131 2 7103 30800	Label (Fuse Label)
29 *	131 2 7104 00500	Plate Pad Switch

ELECTRICAL PARTS LIST

Ref. No.	Parts Number	Description
30	4 2319 00450	Switch Rotary, Function
31	4 2319 21531	Switch Slide, 110 - 220V Select
32	4 2319 24382	Switch Lever, Power Switch
33	4 2349 20400	Fuse 0.63A Pilot Lamp
34	4 2349 20570	Fuse 2.5AT Protector
35	4 2349 20580	Fuse 3.15A, Trans Secondary
36	4 2359 21021	Fuse Holder, AC Fuse
37	4 2359 22031	Fuse Holder, Protector
38	4 2359 22710	Socket 4P RCA
39	4 2359 23070	RCA 2P Jack, Phono Input
40	4 2379 21710	Terminal 4P, Speaker
41 *	4 2439 20521	Power Cord (RE1, SEV)
*	4 2439 20590	Power Cord (CEE, SCAN)
42	4 2512 02420	Power Transformer 110/220V
43	4 5119 20970	Meter VU, Power Level
C01,02	C2EHRM103A	MP Con. 0.01 μF 250V ±20%
44,C03	4 2239 21300	Electrolytic 6800 μFx2 50WV
C04,05	C1HYDZ473A	Ceramic 0.047 μF 50V +80,–20%
C06,07	C1EAEN106A	Electrolytic 10 μF 25V ±30%
R01,02	R2HCPK102A	Solid 1k 1/2W ±10%
45 *	131 0 4001 88500	EQ, MIC, TONE, P.C.B. Assy
46 *	131 0 4001 88601	POWER AMP P.C.B. Assy
47 *	131 0 4001 88700	VOLUME P.C.B. Assy
48 *	131 0 4001 88800	POWER SUPPLY P.C.B. Assy
49 *	131 0 4001 88900	METER P.C.B. Assy

*—Not a service part.

PARTS LIST

EQ, MIC, TONE P.C.B. Assy
1310 4001 88500

Ref. No.	Parts Number	Description
SW01	4 2312 00710	Switch Lever 6P, Tape Monitor
SW02	4 2319 24393	Switch Lever 6P, Loudness
VR01	4 2229 27070	VR 50k-Bx2, MIC Mixing
VR02	4 2229 27080	VR 500k-W, Balance
VR03	4 2229 27050	VR 100k-Cx2, Bass
VR04	4 2229 27050	VR 100k-Cx2, Treble
	4 2359 23400	Jack Headphone
	4 2359 23410	Jack MIC

CAPACITORS

Ref. No.	Parts Number	Description			
C01,02 03,04	C1HRE-105AL	Electrolytic	1 μF	50V	
C05,06	C1HCSK221SL	Ceramic	220 pF	50V	±10%
C07,08	C1ERB-476A	Electrolytic	47 μF	25V	
C09,10	C1HFAJ153A	Mylar	0.015 μF	50V	±5%
C11,12	C1HFAJ432A	Mylar	0.0043 μF	50V	±5%
C13,14	C1ERB-476A	Electrolytic	47 μF	25V	
C15,16	C1HRB-105A	Electrolytic	1 μF	50V	
C17	C1EUBM474A	Sint. Alu.	0.47 μF	25V	±20%
C18	C1HCSK470SL	Ceramic	47 p	50V	±10%
C19	C1HCSK221SL	Ceramic	220 pF	50V	±10%
C20	C1EUBM104A	Sint. Alu.	0.1 μF	25V	±20%
C21	C1HCSK471SL	Ceramic	470 pF	50V	±10%
C22	C1CRB-106A	Electrolytic	10 μF	16V	
C23,24	C1EUBM104A	Sint. Alu.	0.1 μF	25V	±20%
C25,26	C1HCSK820SL	Ceramic	82 pF	50V	±10%
C27,28 29,30	C1HRB-105A	Electrolytic	1 μF	50V	
C31,32	C1HCSK271SL	Ceramic	270 pF	50V	±10%
C33,34	C1HFAK273A	Mylar	0.027 μF	50V	±10%
C35,36 37,38	C1ERB-106A	Electrolytic	10 μF	25V	
C39,40	C1HFAK333A	Mylar	0.033 μF	50V	±10%
C41,42	C1HFAK222A	Mylar	0.0022 μF	50V	±10%
C43,44	C1HFAK224A	Mylar	0.22 μF	50V	±10%
C45,46	C1HFAK223A	Mylar	0.022 μF	50V	±10%
C47	C1VRB-107A	Electrolytic	100 μF	35V	
C48,49	C1VRB-108A	Electrolytic	1000 μF	35V	
C50	C1HRB-106A	Electrolytic	10 μF	50V	
C51	C1HRB-476A	Electrolytic	47 μF	50V	
C52	C1ERB-226A	Electrolytic	22 μF	25V	

SEMICONDUCTORS

Ref. No.	Parts Number	Description
D01	DCC-10D1---NA	Diode, 10D1
D02	205 5 9040 44210	Diode, DS-442
D03	DJZ-WZ-230	Zener Diode, WZ230
IC01	IYY-BA301	IC BA301, MIC AMP
Q01,02	TMZ-2SA906--G	TR 2SA906 G,H
Q03,04 05,06	203 5 5151 57170	TR 2SC1571 G,H
Q07,08	203 5 5100 53660	TR 2SC536 F,G

RESISTORS

Ref. No.	Parts Number	Description			
R01,02	R2EDSJ102A	Carbon	1k	1/4W	±5%
R03,04	R2EDSJ224A	Carbon	220k	1/4W	±5%
R05,06	R2EDSJ683A	Carbon	68k	1/4W	±5%
R07,08	R2EDSJ222A	Carbon	2.2k	1/4W	±5%
R09,10	R2EDSJ331A	Carbon	330	1/4W	±5%
R11,12	R2EDSJ224A	Carbon	220k	1/4W	±5%
R13,14	R2EDSJ124A	Carbon	120k	1/4W	±5%
R15,16	R2EDSJ224A	Carbon	220k	1/4W	±5%
R17,18	R2EDSJ183A	Carbon	18k	1/4W	±5%
R19,20	R2EDSJ123A	Carbon	12k	1/4W	±5%
R21,22	R2EDSJ472A	Carbon	4.7k	1/4W	±5%
R23,24	R2EDSJ102A	Carbon	1k	1/4W	±5%
R25,26	R2EDSJ104A	Carbon	100k	1/4W	±5%
R27	R2EDSJ102A	Carbon	1k	1/4W	±5%
R28	R2EDSJ472A	Carbon	4.7k	1/4W	±5%
R29	R2EDSJ224A	Carbon	220k	1/4W	±5%
R30	R2EDSJ184A	Carbon	180k	1/4W	±5%
R31	R2EDSJ154A	Carbon	150k	1/4W	±5%
R32	R2EDSJ153A	Carbon	15k	1/4W	±5%
R33	R2EDSJ223A	Carbon	22k	1/4W	±5%
R34	R2EDSJ102A	Carbon	1k	1/4W	±5%
R35,36	R2EDSJ153A	Carbon	15k	1/4W	±5%
R37,38	R2EDSJ104A	Carbon	100k	1/4W	±5%
R39,40	R2EDSJ103A	Carbon	10k	1/4W	±5%
R41,42	R2EDSJ474A	Carbon	470k	1/4W	±5%
R43,44	R2EDSJ223A	Carbon	22k	1/4W	±5%
R45,46	R2EDSJ273A	Carbon	27k	1/4W	±5%
R47,48	R2EDSJ152A	Carbon	1.5k	1/4W	±5%
R49,50	R2EDSJ104A	Carbon	100k	1/4W	±5%
R51,52	R2EDSJ102A	Carbon	1k	1/4W	±5%
R53,54	R2EDSJ682A	Carbon	6.8k	1/4W	±5%
R55,56	R2EDSJ123A	Carbon	12k	1/4W	±5%
R57,58	R2EDSJ823A	Carbon	82k	1/4W	±5%
R59,60 61,62	R2EDSJ182A	Carbon	1.8k	1/4W	±5%
R63,64	R2EDSJ561A	Carbon	560	1/4W	±5%
R65,66	R3AXBJ331A	Oxide Metal Film	330	1W	±5%
R67	R2HZPK101A	Fuse	100	1/2W	±10%
R68,69	R2HZPK471A	Fuse	470	1/2W	±10%
R70	R2EDSJ223A	Carbon	22k	1/4W	±5%
R71	R2EDSJ182A	Carbon	1.8k	1/4W	±5%
R72	R2EDSJ563A	Carbon	56k	1/4W	±5%
R73,74 75,76	R2EDSJ103A	Carbon	10k	1/4W	±5%

PARTS LIST

OWER AMP P.C.B. Assy
310 4001 88601

ef. No.	Parts Number	Description
	131 2 6201 21804	Plate Heat Sink
	CAPACITORS	
01,02	C1ERB-106A	Electrolytic 10 μF 25V
03,04	C1HCSK471SL	Ceramic 470 pF 50V ±10%
07,08 09,10	C1HRB-107A	Electrolytic 100 μF 50V
11,12	C1HCSK101SL	Ceramic 100 pF 50V ±10%
13,14	C1ARB-107A	Electrolytic 100 μF 10V
15,16	C1HFAK104A	Mylar 0.1 μF 50V ±10%
	SEMICONDUCTORS	
01,02	DJJ-WZ-210	Diode, WZ-210
03,04 05,06 07,08	205 5 9040 44210	Diode, DS-442
01,02	206 5 6040 04010	IC, STK-0040, Power AMP
01,02	203 5 6870 54546	TR 2SD545 D,E,F,G
03,04	TMM-2SA798--F	TR 2SA798 F
05,06	203 5 5151 57170	TR 2SC1571 G,H
07,08	TMM-2SC1708-F	TR 2SC1708 F,G
09,10	203 5 6920 43840	TR 2SD438 D,E
11,12	203 5 6930 56040	TR 2SB560 D,E
	RESISTORS	
01,02	R2EDZJ102APA	Carbon 1k 1/4W ±5%
03,04	R2EDZJ154APA	Carbon 150k 1/4W ±5%
05,06	R2EDZJ222APA	Carbon 2.2k 1/4W ±5%
07,08	R2EDZJ223APA	Carbon 22k 1/4W ±5%
09,10 11,12	R2EDZJ102APA	Carbon 1k 1/4W ±5%
13,14	R2EDZJ561APA	Carbon 560 1/4W ±5%
15,16	R2EDZJ103APA	Carbon 10k 1/4W ±5%
17,18	R2EDZJ151APA	Carbon 150 1/4W ±5%
19,20	R2EDZJ102APA	Carbon 1k 1/4W ±5%
21,22	R2EDZJ221APA	Carbon 220 1/4W ±5%
23,24	R2EDZJ563APA	Carbon 56k 1/4W ±5%
25,26	R2EDZJ562APA	Carbon 5.6k 1/4W ±5%
27,28 29,30	R2HZPK100A	Fuse 10 1/2W ±10%
31,32 33,34	R3WEIKR47A	Cement 0.47 3W ±10%
35,36	R2EDZJ472APA	Carbon 4.7k 1/4W ±5%
37,38	R2HZPK100A	Fuse 10 1/2W ±10%

OLUME P.C.B. Assy
310 4001 88700

ef. No.	Parts Number	Description
R01	4 2229 27060	VR 100k-Ax2

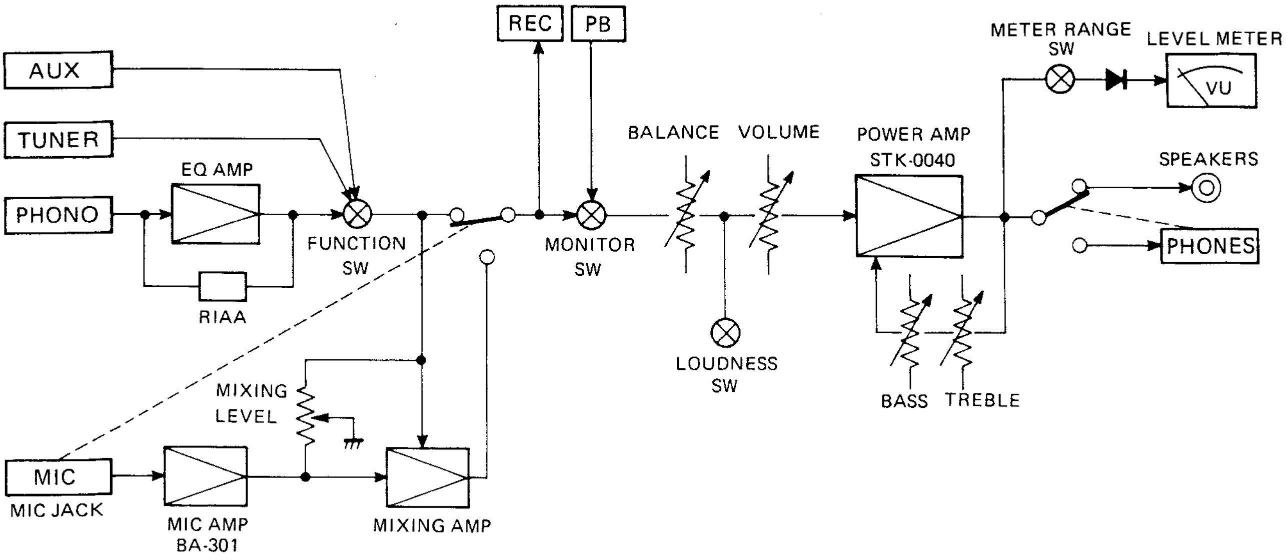
POWER SUPPLY P.C.B. Assy
1310 4001 88800

Ref. No.	Parts Number	Description
	CAPACITORS	
C01,02	C1HRB-106A	Electrolytic 10 μF 50V
C03,04 05,06	C2HYSP103A	Ceramic 0.01 μF 500V +100,–0%
	SEMICONDUCTORS	
D01,02	DJZ-WZ270	Diode, WZ270
D03	DDD-S4VB20	Bridge Diode, S4VB20
	RESISTORS	
R01	R2HZPK471A	Fuse 470 1/2W ±10%
R02	R2HZPK561A	Fuse 560 1/2W ±10%

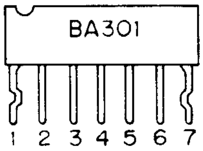
METER P.C.B. Assy
1310 4001 88900

Ref. No.	Parts Number	Description
SW04	4 2312 00480	Push Switch 1 Key
	CAPACITORS	
C01,02	C1HRB-474A	Electrolytic 0.47 μF 50V
	SEMICONDUCTORS	
D01,02 03,04	205 5 9040 44210	Diode, DS-442
D05,06	202 5 9110 18820	Diode 1S 188FM1
	RESISTORS	
R01,02	R2EDZJ223APA	Carbon 22k 1/4W ±5%
R03,04	R2EDZJ152APA	Carbon 1.5k 1/4W ±5%
R05,06	R2EDZJ123APA	Carbon 12k 1/4W ±5%

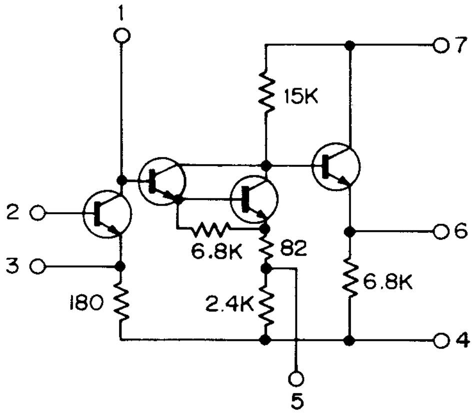
FUNCTIONAL BLOCK DIAGRAM


AUX
TUNER
PHONO
EQ AMP
RIAA
FUNCTION SW
REC
PB
MONITOR SW
BALANCE
VOLUME
LOUDNESS SW
POWER AMP STK-0040
BASS
TREBLE
METER RANGE SW
LEVEL METER
VU
SPEAKERS
PHONES
MIXING LEVEL
MIC
MIC JACK
MIC AMP BA-301
MIXING AMP

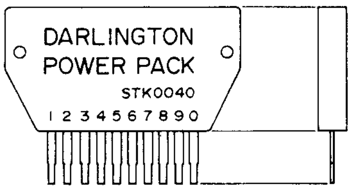
MIC AMP IC BA301 EQUIVALENT CIRCUIT


BA301
1 2 3 4 5 6 7

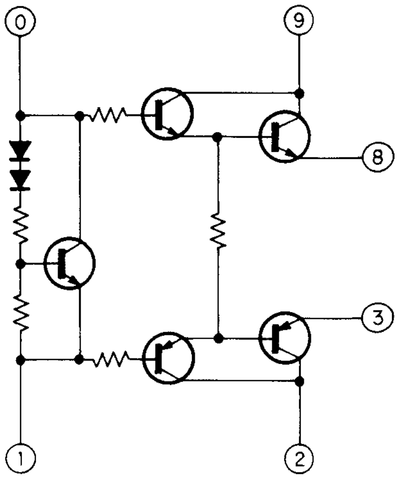
(FRONT VIEW)

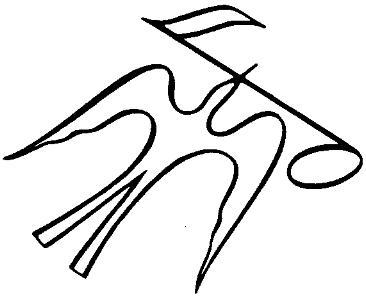

1
2
3
4
5
6
7
15K
6.8K
82
2.4K
180
6.8K

POWER AMP IC STK0040 EQUIVALENT CIRCUIT


DARLINGTON
POWER PACK
STK0040
1 2 3 4 5 6 7 8 9 0

(FRONT VIEW)





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